

SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING SAME

Abstract

A high-speed, low-power-consumption semiconductor device has a thin-film Si layer with a source/drain formed therein. The thin-film Si layer is curved from a region directly below a gate electrode toward a region near the source/drain. The curved thin-film Si layer develops strains in a channel region disposed directly below the gate electrode sandwiched by the source/drain in the thin-film Si layer, for thereby increasing a carrier mobility. A cavity is defined below the curved thin-film Si layer for reducing a parasitic capacitance due to a pn junction.